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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,242	12/09/2003	Brian Jones	60001.296US01	4899

27488 7590 03/09/2006

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EXAMINER

TSUI, WILSON W

ART UNIT PAPER NUMBER

2178

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/731,242	<b>Applicant(s)</b> JONES ET AL.	
	<b>Examiner</b> Wilson Tsui	<b>Art Unit</b> 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>Sep. 7, 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is in response to the application filed on December 9, 2003, preliminary amendment filed on 11/8/04, and IDS filed on 9/7/04.
2. Claims 1-22 are pending. Claims 1, 10, and 18 are independent claims.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 18-22 are rejected on the basis that the claimed "system" appears to be directed to a "computer program per se" without hardware. Since the computer program not embodied on a computer readable medium is non-statutory subject matter, see MPEP 2105 below:

(a) Functional Descriptive Material: "Data Structures" Representing Descriptive Material *Per Se* or Computer Programs Representing Computer Listings *Per Se*

Data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's

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functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5, 6, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Altamura et al (IJRAR, published: November 7, 2000, pages 6-12).

With regards to claim 1, Altamura et al teaches a method comprising:

- *Determining properties corresponding to a mini-document that relates to at least one section of an application document:* (Fig. 3, P6-5: whereas, layout analysis is performed to determine the properties for each block in a document (where each block relates to a segment of a document image, and thus represents a mini-document of the entire application document)).
- *Mapping the properties of the mini-document into at least one of a markup language element, an attribute, and a value:* (P9-3: whereas, the properties of

the mini-document, such as a running-header, is mapped into an element (labeled 'ID'), and assigned an ID value such as 'id0').

- *Storing the properties of the mini-document in the markup language document.* (P8-1 and P9-3: whereas, the properties are stored in a DTD data file).

With regards to claim 3, Altamura et al teaches a method wherein *mapping the properties further comprises mapping a type attribute that corresponds to the mini-document* (P9-3: whereas, each type of mini-document is identified by a an ID number, such as 'id0').

With regards to claim 5, which depends on claim 1, Altamura et al teaches a method wherein *determining the properties relating to the mini-document* (in claim 1, and is rejected under the same rationale) *further comprises determining whether the mini-document correspond one of a paragraph element* (Fig. 3, P9-3: whereas, the 'running-head' mini document corresponds to a '<paragraph>' element).

With regards to claim 6, which depends on claim 1, Altamura et al teaches a method wherein:

- *Determining the properties corresponding to an additional mini-document that relates to at least one section of the application document.* (Fig. 3, p6-5: whereas, layout analysis is performed to determine one or more additional mini documents/blocks that have like properties in a document).
- *Mapping the properties of the additional mini-document into at least one of a markup language element, an attribute and a value:* (P9-3: whereas, the properties of the additional mini-document, such as a running-header, is mapped

into an element (labeled 'ID'), and assigned an ID value such as 'id0' for one type of mini-document, and 'id4' for another type of mini document).

- *Storing the properties of the mini-document in the markup language document:* (P8-1 and P9-3: whereas, the properties are stored in a DTD data file).

With regards to claim 7, which is dependent on claim 1, Altamura et al teaches a method comprising:

- *Determining whether properties associated with all mini-documents of the application document have been stored in the markup language document; and processing further mini-documents when the properties associated with all mini-documents have not been stored in the markup language document* (P7-9: whereas, the application document is translated into HTML/XML formats by aggregating all textual, graphical, layout and logical information extracted in the document analysis and understanding process).

With regards to claim 8, which is dependent on claim 1, Altamura et al teaches a method wherein *the properties of the mini-document stored in the markup language document* (in claim 1, and is rejected under the same rationale), *are understood by an application that understands the markup language when the mini-document is not native to the application* (P7-10, Fig. 5: whereas, xml documents can be sent to a client browser that does not have the mini-document native to the application, through the help of a validating parser using an agreed schema of information exchange (DTD) + XML)).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 10, 12, 13, 15, 16, 17, 18, 19, 20, and 21 are rejected under 35 U.S.C.

103(a) as being unpatentable over Altamura et al (IJDAR, published: November 7, 2000, pages 6-12) in view of Klink et al (DFKI, published, September 25, 2000, pages 1a, 3, 4, and 11).

With regards to claim 2, which depends on claim 1, Altamura et al teaches a method *further comprising determining whether the mini-document is one of a header* (P9-3, whereas, a mini-document is recognized to be a header (labeled as 'running-header')). However, Altamura et al does not expressly teach *determining whether the mini-document is one of a footer*.

Klink et al teaches *determining the mini-document is one of a footer* (Section 4.1: whereas, each block/mini-document in the document are determined, including footers).

Furthermore, Altamura et al and Klink et al are analogous art since they are from the same problem solving area: document analysis and document data in XML.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's set of mini-documents to further include recognizing a footer as a mini-document as well. The combination of Altamura et al and

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Klink et al would have allowed better "recognition of document structure" (Klink et al, Section 4) in Altamura et al's system.

With regards to claim 10, Altamura et al teaches a computer readable medium comprising:

- *Determining properties relating to a mini-document* (similar to claim 1, and is rejected under the same rationale) *used within a word processing document* (P9-4: whereas, the image document is word processed since OCR technology is used to extract words from the image, and thus represents a word processing document as well).
- *Determining whether the mini-document is one of a header* (P9-3, whereas, a mini-document is recognized to be a header (labeled as 'running-header').
- *Writing the properties into at least one of a markup language element, an attribute, and a value*, similarly in claim 1, and is rejected under the same rationale.
- *Storing the properties in the markup language document such that the headers of the word-processing document are substantially maintained when the markup language document is parsed by an application* (P8-1 and P9-3: whereas, the properties are stored in a DTD data file).

However, Altamura et al does not expressly teach *determining whether the mini-document is one of a footer*, and the properties stored in a markup language file such that the *footers* of the word-processing document are substantially maintained when the markup language document is parsed by an application.



Klink et al similarly teaches *determining whether the mini-document is one of a footer*, in claim 2, and is rejected under the same rationale. Furthermore, Klink et al teaches storing properties of mini-document data in a markup language file (Section 7: whereas, document representation data can be stored in HTML/XML format)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's ability to determine whether a mini-document is a header, to also further include the ability to determine whether a mini-document is a footer for storage in a markup language document as taught by Klink et al. The combination of Altamura et al and Klink et al would have allowed Altamura et al's system to have ensured that the footer properties in a markup language document would have been substantially maintained when a markup language document was stored by an application.

With regards to claim 12, which depends on claim 10, Altamura et al teaches a computer readable medium for performing a method similar to claim 8, and is rejected under the same rationale.

With regards to claim 13, which depends on claim 10, Altamura et al teaches a computer readable medium for performing a method similar to claim 3, and is rejected under the same rationale.

With regards to claim 15, which depends on claim 13, Altamura et al teaches a computer readable medium for performing a method similar to claim 5, and is rejected under the same rationale.

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With regards to claim 16, which depends on claim 13, Altamura et al teaches a computer readable medium comprises:

- *Determining properties corresponding to an additional mini-document that relates to at least one section (similarly in claim 6, and is rejected under the same rationale), of a word processing document (in claim 10, and is rejected under the same rationale).*
- *Mapping the properties of the additional mini-document into at least one of a markup language element, an attribute, and a value; and storing the properties of the additional mini-document in the markup language document: (as similarly taught in claim 6, and is rejected under the same rationale).*

With regards to claim 17, which depends on claim 13, Altamura et al teaches a computer readable medium for performing a method similar to claim 7, and is rejected under the same rationale.

With regards to claim 18, Altamura et al teaches a system comprising:

- *Determining properties relating to a mini-document included in at least one section of an application document: (similarly in claim 1, and is rejected under the same rationale).*
- *Determine whether the mini-document is one of a header (P9-3, whereas, a mini-document is recognized to be a header (labeled as 'running-header').*
- *Map the properties into at least one of a markup language element, an attribute, and a value: (similarly, in claim 1, and is rejected under the same rationale).*

- *Store the properties in the markup language document* (similarly in claim 1, and is rejected under the same rationale), *and a validation engine configured to validate the markup language document* (P7-10: whereas, a parser is used for validating the XML document).

However, Altamura et al does not expressly teach *determining whether the mini-document is one of a footer*, and the properties stored in a markup language file such that the *footers* of the word-processing document are substantially maintained when the markup language document is parsed by an application.

Klink et al similarly teaches *determining whether the mini-document is one of a footer*, in claim 2, and is rejected under the same rationale. Furthermore, Klink et al teaches storing properties of mini-document data in a markup language file (Section 7: whereas, document representation data can be stored in HTML/XML format)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's ability to determine whether a mini-document is a header, to also further include the ability to determine whether a mini-document is a footer for storage in a markup language document as taught by Klink et al. The combination of Altamura et al and Klink et al would have allowed Altamura et al's system to have ensured that the footer properties in a markup language document would have been substantially maintained when a markup language document was stored by an application.

With regards to claim 19, which depends on claim 18, Altamura et al teaches a system performing a method similar to claim 6, and is rejected under the same rationale.

With regards to claim 20, which depends on claim 18, Altamura et al teaches a system performing a method similar to claim 7, and is rejected under the same rationale.

With regards to claim 21, which depends on claim 18, Altamura et al teaches a system wherein *the properties of the mini-document stored in the markup language document are understood by an additional application that understands the markup language when the mini-document is not native to the additional application* (P7-10, Fig. 5: whereas, xml documents can be sent to a additional application (client browser) that does not have the mini-document native to the additional application, through the help of a validating parser using an agreed schema of information exchange (DTD) + XML)).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Altamura et al (IJDAR, published: November 7, 2000, pages 6-12) in view of Eisenberg (XML.com, published, June 8, 2001, pages 1a and 1).

With regards to claim 4, which depends on claim 1, Altamura et al teaches a method for a *mini-document occurring in a specified section of the application document* (in claim 1, and is rejected under the same rationale), and a *type attribute*, in claim 3, and is rejected under the same rationale. However, Altamura et al does not expressly teach the type attribute corresponding to *whether the mini-document occurs on a first page, odd pages, or even pages of the application document*.

Eisenberg teaches the *attributes* for whether pages *correspond to even, or odd number* pages of a document (P1-4), as well as a *first page* (P1-2: whereas, a cover page is a sequence of one page).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's type attribute for whether a document (such as a mini-document) occurs on a first, even, or odd page as taught by Eisenberg. The combination of Altamura et al and Eisenberg would have allowed Altamura et al's system to have "specified the order (of pages) when it was the time to generate a sequence of pages" (Eisenberg, P1-1).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Altamura et al (IJDAR, published: November 7, 2000, pages 6-12) in view of Pavlov (US Patent: 6,725,426 B1, published: Apr. 20, 2004, filed: Mar. 17, 2000).

With regards to claim 9, which is dependent on claim 1, Altamura et al teaches a method for wherein *the markup language document is manipulated* on a client station to *substantially reproduce the mini-document of the application document not withstanding the presence of an application that generated the markup language document* (Section 6.2, Fig. 5: whereas, the properties stored in the markup document, are understood by a client web browser to reproduce the document without using WISDOM++). However Altamura et al does not teach the markup language document is *manipulated on a server* to reproduce the mini-document.

Pavlov teaches a markup language document is *manipulated on a server to reproduce the mini-document* (column 3, lines 59-65: whereas, a system capable of

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retrieving XML content is manipulated by a server to reproduce a document for a particular device).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's mini-document reproduction system to be reproduced on a server system as taught by Pavlov. The combination of Altamura et al and Pavlov would have allowed Altamura et al's system to have "stored content in XML format instead of word processing documents" (Pavlov, column 1, lines 34-39).

8. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altamura et al (IJRAR, published: November 7, 2000, pages 6-12) and Klink et al (DFKI, published, September 25, 2000, pages 1a, 3, 4, and 11), in view of Pavlov (US Patent: 6,725,426 B1, published: Apr. 20, 2004, filed: Mar. 17, 2000).

With regards to claim 11, which depends on claim 10, Altamura et al a computer readable medium comprising:

- *A word processing document*, similarly, in claim 10, and is rejected under the same rationale.
- *The markup language document is manipulated on a client to substantially reproduce the mini-document of the word-processing document notwithstanding the presence of an application that generated the markup language document* (Section 6.2, Fig. 5: whereas, the properties stored in the markup document, are understood by a client web browser to reproduce the document without using WISDOM++). However Altamura et al does not teach the markup language document is *manipulated on a server to reproduce the mini-document*.

However, Altamura et al does not teach the markup language document is *manipulated on a server* to reproduce the mini-document.

Pavlov teaches a markup language document is *manipulated on a server to reproduce the mini-document* (column 3, lines 59-65: whereas, a system capable of retrieving XML content is manipulated by a server to reproduce a document for a particular device).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's mini-document reproduction system to be reproduced on a server system as taught by Pavlov. The combination of Altamura et al, Klink et al, and Pavlov would have allowed Altamura et al's system to have "stored content in XML format instead of word processing documents" (Pavlov, column 1, lines 34-39).

With regards to claim 22, which depends on claim 18, Altamura et al teaches a system performing a method similar to claim 9, and is rejected under the same rationale.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Altamura et al (IJDAR, published: November 7, 2000, pages 6-12) and Klink et al (DFKI, published, September 25, 2000, pages 1a, 3, 4, and 11), in view of Eisenberg (XML.com, published, June 8, 2001, pages 1a and 1).

With regards to claim 14, which depends on claim 13, Altamura et al teaches a method for a *mini-document occurring in a specified section of the word processing document* (in claim 10, and is rejected under the same rationale), and a *type attribute*,

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similarly in claim 3, and is rejected under the same rationale. However, Altamura et al does not expressly teach the type attribute corresponding to *whether* the mini-document occurs on a first page, odd pages, or even pages of the word processing document.

Eisenberg teaches *attributes* for whether pages correspond to even, or odd number pages of a document (P1-4), as well as a *first page* (P1-2: whereas, a cover page is a sequence of one page).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Altamura et al's type attribute for whether a document (such as a mini-document) occurs on a first, even, or odd page as taught by Eisenberg. The combination of Altamura et al, Klink et al, and Eisenberg would have allowed Altamura et al's system to have "specified the order (of pages) when it was time to generate a sequence of pages" (Eisenberg, P1-1).

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hall et al (US Application: US 2004/0205553 A1, published: Oct, 14, 2004, filed: Aug. 15, 2001): Teaches Page Layout Markup Language (markup specialized for catalog/book description).
- Justice et al (US Patent: 6,996,772 B2, issued: Feb. 7, 2006, filed: Jul. 25, 2001): Teaches document transformation using stylesheets and XML.
- Wright (US Patent: 4751740, issued: Jun. 14, 1988, filed: Dec. 10, 1984): Teaches text transformation from one structure to another.



- Carrol (US Patent: 6,845,483 B1, issued: Jan. 18, 2005, filed: Oct. 22, 1999): Markup generation using Mini-regions/mini-documents.

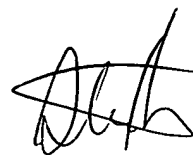
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wilson Tsui whose telephone number is (571)272-7596. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W.T. 3/6/2006

Wilson Tsui  
Patent Examiner  
Art Unit 2178  
March 6, 2006



STEPHEN HONG  
SUPERVISORY PATENT EXAMINER